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**THE STRUCTURE AND PERFORMANCE OF
MEXICAN BANKS AND FINANCIERAS**

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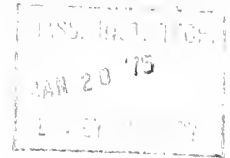
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I. Introduction

The Mexican economy, from an overall point of view, has had an impressive record of growth over the last thirty-five years and, also until relatively recently, a substantial degree of price stability. This performance has been exceptional as compared to most developing countries and particularly so as compared to most of Latin America.¹ In appraising the factors which have accounted for the unusual achievements of the Mexican economy its financial system has often been accorded special significance.² This, in part, accounts for the concentrated attention which has been given to the study of Mexican financial institutions.³

In part, however, the attention given to Mexican financial institutions reflects a Latin American economic preoccupation with financial organization, financial regulation and financial performance. By comparison with other developing areas, the Latin American countries have placed greater responsibility on their financial systems for the mobilization and allocation of investment resources. While the Latin American concern with the operation of their financial systems reflects the particular structure and organization of their economies, it is more than an idiosyncratic preoccupation. Even in those developing countries in which there is extensive government planning and centralized control over investment allocation, the financial systems usually have an important role. Investment licensing and other investment controls are often only permissive: certain investments are allowed and others are not. Whether or not the permitted investments are actually carried out and, to some extent, in what specific forms, will depend on the operation of financial mechanisms.

Yet in Latin America, as in other areas, most of the questioning of the functioning of their financial systems has been focussed on macroeconomic monetary conditions and the role of financial intermediaries in resolving overall monetary problems.⁴ There have been relatively few theoretical or empirical studies of the relations between the sectors competitive structure and its performance.⁵ For example, only rarely are there analyses of the extent and nature of competition in financial sectors, though such features are considered to be among the most important aspects of the behavior of other sectors. The studies of the Mexican financial system have also neglected the central issue of the microeconomic performance of the sector and have, for the most part, been detailed descriptions of the patterns of growth.

This study is intended to help redress balance. It will concentrate on a microeconomic analysis of the structure and performance over the last thirty years of the two major types of Mexican financial institutions, the deposit banks and the financieras. In the process it will also take up some more general issues of financial performance.

The deposit banks of Mexico are readily recognizable commercial banking institutions. They often have savings deposit departments and undertake some trust activities as well. The financieras, first authorized and organized in the 1930's, have been given credit for a major role in Mexico's economic development. They are, or were intended to be, private development banks providing long term credit to the private sector with funds obtained, in turn, from long term deposits, bonds and equity subscriptions. The financieras are roughly analogous to the industrial banks of western Europe and, as such are not unprecedented types of institutions.⁶ However, when they were first established in Mexico, they were a major innovation in Latin America and in the developing countries generally. In addition to the deposit

banks and financieras there are several other types of financial institutions in Mexico, including saving banks and real estate mortgage banks. However, the commercial banks and financieras are by far and away the dominant private institutions in terms of their assets and the amount of credit which they provide.

However, there are major obstacles to any careful study of the structure and performance of the financial system in Mexico. The most fundamental one is lack of information. The official data which is publicly available consists of highly aggregated balance sheet summaries. While providing an overall description of some important aspects of the institutions, such data are quite inadequate as a basis for a detailed analysis. Moreover, these aggregate balance sheet summaries do not reveal anything of the effects of the extensive interrelations among the banks, on the one hand, and the financieras, on the other hand, or between the commercial bank-financiera complexes and private, nonfinancial firms. Although these relations are a matter of common gossip in Mexican financial and business circles, it is impossible to establish and measure their significance from official sources. In addition, to the author's knowledge, there are no publicly available investigations of the microeconomic functioning of the financial system by the Banco de Mexico which, as the central bank, has both the responsibility and the information with which to regulate the private financial institutions.

Another, related obstacle to careful microeconomic studies is the extensive and detailed system of regulations of interest rates and portfolio composition which exists in Mexico as in most of the other Latin American countries. These regulations have changed over time in ways which are so complicated that even insiders have despaired of sorting out their conditions at any point in time.

The difficulties of analytical investigation imposed by the paucity of data and complexity of the regulatory systems cannot be fully overcome. In this study they lead to a preoccupation with structural features of the financial institutions. Performance characteristics, which are the features of most interest, will have to be inferred indirectly rather than from direct observation. Nonetheless, some insights will be possible.

After describing the relative growth and comparative importance of the banks and financieras, the structural patterns characteristic of each set of institutions and the changes in these patterns over time will be set out. Deposit banks and financieras as providers of credit will be compared through an analysis of their portfolios. Finally some aspects of the performance of these two types of institutions will be established through a simple econometric analysis.

II. Relative growth of banks and financieras

Table 1 presents at decade intervals for the period 1940 to 1970 the numbers and total assets of the major types of financial institutions in Mexico. As shown in Table 1 the numbers of deposit banks grew until 1950 and the numbers of financieras grew until 1960. The numbers of both have subsequently declined slightly. Since the chartering of financieras started in Mexico in the 1930's, the temporal rate of expansion of this type of institution was quite rapid through 1950. The dominance of the deposit banks and financiera among all private financial institutions in Mexico is also shown in Table 1. Though the number and the total assets of other types of financial institutions have grown substantially in absolute terms and, in some instances, relative to deposit banks and financieras, the relative share of total financial assets of the latter two types of institu-

Table 1

Relative Position and Growth of Financieras in Private
Financial System of Mexico **

	1970		1960		1950		1940	
	Number	Assets**	Number	Assets**	Number	Assets**	Number	Assets**
Deposit Banks	104	41,125.4	102	13,350.8	106	4,524.0	61	659.8
Per cent	(19.2)	(28.4)	(18.1)	(47.0)	(21.0)	(65.2)	(44.8)	(78.0)
Financieras	93	73,425.5	98	9,057.8	96	916.5	29	8.3
Per cent	(7.9)	(50.7)	(17.4)	(31.9)	(19.0)	(13.2)	(21.3)	(1.0)
Savings Banks	122	12,902.3	108	2,902.9	85	523.2	6	37.9
Per cent	(22.6)	(8.9)	(19.2)	(10.2)	(16.9)	(7.5)	(4.0)	(4.5)
Mortgage Loan Banks	25	15,551.0	26	2,167.5	20	491.2	2	80.4
Per cent	(4.6)	(10.7)	(4.6)	(7.6)	(4.0)	(7.1)	(1.5)	(9.5)
Other ***	247	1,950.6	229	933.9	197	487.5	38	59.4
Per cent	(45.7)	(1.3)	(40.7)	(3.3)	(39.1)	(7.0)	(27.9)	(7.0)
Totals		144,954.8	563	28,412.9	504	6,942.4	136	845.8

* Data for 1940 from Moore (1963) and for 1950, 1960 and 1970 from the Informe of the Banco de Mexico.

** Assets valued in millions of pesos at end-of-year with intrasystem claims included. The lack of detailed information on accounting procedures may create some noncomparability in the reported asset figures for the various years. So the calculated growth rates should be considered as indicative rather than definitive.

*** These include trust institutions, capitalization banks, savings and loan associations, general deposit warehouses and credit unions but not service organizations such as stock exchanges and clearing house associations.

tions has stayed almost constant. However, the growth of the assets of the financieras to a total larger than the assets of the deposit banks is also clear from Table 1. From a share of one per cent of total financial assets in 1940 the financieras grew so that in 1970 they held just over one-half of total assets.

The conventional explanation for the relative growth of the financieras emphasizes two factors: (1) the special advantage created for them by the virtual guarantee of their securities by the Banco de Mexico at a relatively high rate of return and (2) the importance of the special role which the financiera played in providing long term finance to nonfinancial enterprise.⁸ Since the certificates are issued only by permission of the financial authorities, financiera growth is subject to the control of these authorities. In addition to the special support for their security issues in the earlier stages of the growth the financieras were less closely regulated by financial authorities than commercial banks. Although it is difficult to assess the effectiveness of such regulation the relative freedom of the financieras may have permitted them to be more innovative and aggressive in their lending policies.

In order to evaluate the importance of the financieras in providing long term finance it would be necessary to have detailed information with respect to the composition of their portfolios and the relation between financiera financing and the financial structure of the firms in which they invest. Only a little of that information is publicly available so it is difficult to appraise the significance of the financiera in supplying long term credit, though some evidence will be adduced in Section IV.

Another possible explanation of the growth of the financieras, which is seldom if ever considered, is that it may have provided an opportunity

for new firms to enter a sector in which monopoly profits could be earned. In Mexico, as in other countries, the formation of new banks and most other important types of financial institutions is under control of the financial authorities. Given the conventional fear of "overbanking" new charters typically are issued infrequently except as a major policy departure as in Mexico in the period from 1940 to 1950. Limitations on entry can create monopoly power for established institutions. While there have been a number of references to the existence of monopoly power in the Mexican financial system there have been few, if any, specific studies of its existence and significance.

The hypothesis that the growth of the financiera system is a phenomenon of competitive entry is consistent with the conventional explanation in terms of relative advantage in raising funds. Higher interest rates on their deposits and securities would be one means by which new financial firms, competitively invading the financial system, would bid funds away from commercial banks. What is not explained in this manner is the support of the financiera securities by the Banco de Mexico.

An important qualification to the competitive entry hypothesis is the existence of close connections between many individual financieras and deposit banks. Though details are scarce, there is no secret about the existence of massive financial conglomerates which include mortgage and savings banks as well as deposit banks and financieras. The financial combinations in some cases are associated with and appear to be motivated by nonfinancial businesses. In a personal interview in Mexico with a high official of a financiera the author was told that, "We are bankers and operate like banks." However, later that same day, in another financiera,

an official said, "We are industrialists." These statements suggest the variety of interests which exist within financial institutions and warn against easy generalizations about the motives and behavior of such institutions.

The competitive entry hypothesis may also not appear to be consistent with the view of the financial system as being closely supervised by the Banco de Mexico and other regulatory commissions. Under such detailed control can monopoly power be exercised by financial institutions? Unfortunately there is no direct evidence on this point and indirect insights must be pursued. Yet the question should also be raised as to whether the financial institutions dance as the puppets of the financial authorities or if the former pull their own strings. It would be reasonable to expect that the institutions would try to control the hands that control them and not be merely the passive recipients of the pushes and pulls of financial regulation. How successful the private financial institutions have been in controlling their own destiny cannot be known in detail. However, some skepticism is surely warranted of any story which has all the influence going from the authorities to the individual institutions.

A comparison of the overall patterns of growth of Mexican banks and financieras thus suggests a number of issues which must be resolved before the contribution of the major financial institutions to Mexican development can be assessed. For this a microeconomic analysis of data for individual institutions is necessary. The next section will describe the information which was used.

III. The sample data for banks and financieras

As noted microeconomic data on Mexican financial institutions is not available from official sources though it is collected and used for regulatory

purposes. Yet such information is required if progress is to be made in understanding the contribution of these institutions to the country's development. Because of the lack of official data, it was necessary to rely on the less comprehensive, privately collected information in the Anuario Financiero de Mexico published annually by the Asociacion de Banqueros de Mexico. Though most financial institutions in Mexico submit their annual balance sheets for publication in the Anuario, not all do so in every year, so the coverage is neither complete nor uniform from year to year. The data on individual institutions in the volume consists of end-of-year balance sheets which have only a limited amount of detail on the structure of the assets and liabilities. While no income statements are published, the balance sheets do contain the profits earned during the year, before they are distributed or allocated to earned surplus.

Table 2 lists the number and total assets of the banks and financieras included in the Anuario in the years surveyed and compares these figures with information from other sources. Since the information in the Anuario is privately collected the accounting cannot be held to the same standards of uniformity as in official reports. That helps to account for the fact that, occasionally, the institutions included in the Anuario reported a larger total of assets than officially reported for all such institutions. In general the coverage of the Anuario has increased over time and in the two most recent years surveyed is virtually complete. Personal discussions with informed persons in Mexico, as well as the internal evidence of the sample, suggests that for the recent years at least nearly all of the relatively large institutions have been included in the Anuario. Most of the shifting in and out of the Anuario sample occurs among the smaller institu-

Table 2

Relation of Samples to All Deposit Banks and Financieras *

Deposit Banks						
(1)	Number			Value of Assets **		
	(2) In Sample	(3) Total System	(4) Ratio of Sample to Population	(5) In Sample	(6) Total System	(7) Ratio of Sample to Population
1970	87	104	.84	53,443	54,028	.99
1960	73	102	.72	15,237	16,254	.94
1949	59	106	.56	2,971	3,693	.80
1940	46	61	.75	664	726	.91
Financieras						
1970	73	93	.79	89,359	73,426	1.22
1960	59	98	.60	8,635	9,058	.95
1949	29	96	.30	380	835	.46
1940	13	29	.45	26	8	3.25

* Data for all institutions for 1970, 1960 and 1949 taken from the Informe of the Banco de Mexico and, for 1940, from O. Ernest Moore, Evolucion de Instituciones Financieras en Mexico, CEMLA, Mexico, D.F., 1963.

** Values in millions of pesos.

tions, both banks and financieras. That is of particular importance as the distribution of institutions in the sample will be used to draw inferences with respect to the size distribution of all institutions.

One problem of interpretation should be noted at this point. As noted above there are financial conglomerates and interrelated financial groups which include both banks and financieras. The publicly available information does not reveal the extent to which the members of these conglomerates operate consciously in conjunction and with central direction, or separately. It is, therefore, impossible to determine whether the associated institutions should be treated separately or aggregated for purposes of analysis of their behavior. This problem is exemplified by the Banco de Comercio system. There are at least thirty banks associated with this system which are included in the Anuario in 1970. These are not branches of the parent bank but legally separate and individually chartered banks. The parent bank, by itself, is the second largest bank in the system, but less than half as large as the largest bank, the Banco Nacional de Mexico. When all the Bancos de Comercio are aggregated and treated as a single bank, the system is the largest in Mexico. However, the internal evidence of the balance sheets of the separate Bancos de Comercio suggest that they are more like the independent banks in their size class than they are like the parent bank. In much of the analysis the various Bancos de Comercio will be treated as separate banks though, for some comparisons, they will all be aggregated. In all the analysis the difficulties in identifying truly independent institutions should be kept in mind. In some places in the analysis those problems will be critical one.

IV. Relative size and concentration among Mexican banks and financieras

Tables 3 and 4 provide information about the size distributions of Mexican banks in 1940, 1949, 1960 and 1970 and changes in this distribution

Table 3

Distribution of Total Assets of Surveyed Banks by Size Rank
Without Aggregation of Conglomerates (Per Cent), 1940-197 *

Size Rank	1970	1960	1949	1940
Numbers 1 and 2	0.3896	0.3818	0.4445	0.3646
Numbers 3 and 4	0.1382	0.1374	0.1118	0.1395
Total 1 - 4	0.5278	0.5192	0.5563	0.7041
Numbers 5 and 6	0.0498	0.0864	0.0749	0.0697
Numbers 7 - 10	0.0603	0.0639	0.0913	0.0574
Total 1 - 10	0.6379	0.6695	0.7225	0.8312
Numbers 11 - 20	0.1092	0.1035	0.1178	0.0845
Total 1 - 20	0.7471	0.7730	0.8403	0.9157
Remaining banks	0.2528	0.2269	0.1597	0.0844
Total Number of Banks in Sample	87	73	59	46

* Total may not add to 1 because of rounding errors.

Table 4

Distribution of Total Assets of Surveyed Banks by Size Rank
(All Bancos de Comercio aggregated) *, 1940-1970

Size Rank	1970	1960	1949	1940
Numbers 1 and 2	0.5571	0.5330	0.5430	0.6651
Numbers 3 and 4	0.1382	0.1374	0.1118	0.1589
Total 1 - 4	0.6953	0.6704	0.6548	0.8240
Numbers 5 and 6	0.0498	0.0864	0.0794	0.0794
Numbers 7 - 10	0.0603	0.0541	0.0733	0.0612
Total 1 - 10	0.8054	0.8109	0.8030	0.9646
Numbers 11 - 20	0.0898	0.0877	0.0958	0.0354
Total 1 - 20	0.8952	0.8986	0.8988	--
Remaining banks	0.1049	0.1013	0.1012	--
Total Number of Banks in Sample	62	50	46	19

* Total may not add to 1 because of rounding errors.

over time. In Table 3 the Bancos de Comercio are treated as separate institutions and in Table 4 they are all aggregated. Table 5 presents similar size distributions for the financieras. There might well be reasonable objections to the use of the particular size categories, if the categories were to be made the basis for any detailed inferences with respect to the quality of competition among the various institutions. However, no such detailed inferences will be attempted since, as is well-known, no specific behavioral relations can be established between structure and performance other than in the special and extreme cases of pure competition and monopoly. Yet it can be pointed out that the concentration among banks and financieras is certainly high relative to what would be consistent with a competitive industry. If the argument were to be attempted that there is competition among Mexican banks and financieras, that argument would have to be made on grounds other than the size distributions of the institutions. Among commercial banks the concentration is substantial whether or not the Bancos de Comercio are aggregated or treated separately. When they are treated separately, the two largest banks, the Banco Nacional de Mexico and the parent Banco de Comercio, held about thirty-nine per cent of the assets of all banks in the sample in 1970, and only a small portion of the total banking assets is not included in the sample. When all the Bancos de Comercio are aggregated, the share of total assets of the two largest banks is almost fifty-six per cent. Even when the Bancos de Comercio are treated separately, the largest four banks had over fifty per cent of the total assets of the commercial banking system.

Tables 3 and 4 suggest somewhat different types of changes in concentration over time. In Table 3, with the Bancos de Comercio treated

separately, it appears that after a decline in the share of the total assets of largest four banks from 1940 to 1960 there was a slight relative growth in this proportion from 1960 to 1970. However, among all banks of rank one to twenty there has been a steady decline in asset shares and a steady growth in asset shares of the smaller banks, of rank greater than twenty. This suggests that the smaller banks have been relatively effective in their "competition" while the banks ranking between them and the four largest have in general not even been able to retain their share of total assets. Perhaps being close in size to the giants has been a disadvantage rather than an advantage. The picture changes somewhat, as indicated in Table 4, when all the Bancos de Comercio are aggregated. In that case it appears that the smallest banks have only been capable of maintaining their relative shares, while the two largest banks have increased their shares and the shares of the other banks have declined somewhat. This indicates that the smaller Bancos de Comercio have benefited relative to other small banks from their association in the Banco de Comercio group. It is clear, that in whatever manner the counting is done that the two largest banks are, in relative terms, giants. The third largest bank in 1970, the Banco de Londres y Mexico, has less than one third of the assets of the Banco Nacional de Mexico which is second to the Banco de Comercio system.

Table 5 shows an analogous concentration among the financieras. Again the two largest institutions have more than one-half of the assets of all financieras though the share seems to have been declining slightly over time. The share of assets of the smallest financieras, of rank order greater than twenty, appears to have increased over the last twenty years mainly at

Table 5

Distribution of Total Assets of Surveyed Financieras
by Size Rank, 1940 - 1970 *

Size Rank	1970	1960	1949	1940
Numbers 1 and 2	0.3887	0.3185	0.4266	0.5936
Numbers 3 and 4	0.1669	0.2547	0.2071	0.1325
Total 1 - 4	0.5556	0.5732	0.6337	0.7261
Numbers 5 and 6	0.0918	0.1039	0.1152	0.1038
Numbers 7 to 10	0.0991	0.0888	0.1173	0.1334
Total 1 - 10	0.7465	0.7659	0.8662	0.9633
Numbers 11 to 20	0.0975	0.1081	0.0976	--
Total 1 - 20	0.8440	0.8740	0.9638	--
Remaining	0.1560	0.1260	0.0361	0.0367
Total Number of Financieras in Sample	73	59	29	13

* Proportions may not add to 1.0 because of rounding.

the expense of the financieras of size rank two to twenty. Again, being close to the giants appears to have been a disadvantage rather than an advantage.

From more detailed tables which were prepared it became clear that there has been a high degree of stability in the relative position of the largest banks. The largest three banks have maintained their relative positions since 1949 and the next three largest have only shifted positions among themselves in this period. There has been more shifting in relative position among the middle-sized and smaller banks: only twelve of the banks ranked twenty-one to forty in 1970 were in that same rank group in 1960; only six maintained their position in this group from 1949 to 1960. By comparison sixteen of the largest twenty banks in 1970 were also among the largest twenty in 1949.

There has been substantially less stability in the relative positions of the financieras. The largest four financieras in 1970 were also the largest four in 1960 but the relative position of each one of these four had changed in this period. Even so, among the largest ten financieras in 1970 at least eight were among the largest ten in 1960. There appears to have been more shifting in relative positions as between 1949 and 1960 than between 1960 and 1970, however the sample data are more incomplete for this earlier period and inferences must be made more cautiously.

As noted above it is dangerous to attempt to infer the characteristics of market performance from evidence with respect to its structure. Therefore, with caution, the following points can be made from the structural evidence presented. The concentration of both the commercial banking and financiera and sectors is quite far from that associated with competition. Rather the market structure suggests the existence of a kind of oligopoly

with the few largest firms maintaining their relative positions and effectively disciplining those firms which are somewhat smaller but still relatively near to them in size. Among the smallest banks and financieras, however, there is more evidence of competition, both in the changing share of assets of this group and the substantial changes in their relative standing.

Yet the calculation of concentration ratios for banks and financieras separately may misrepresent and underestimate the degree of concentration in the financial system as a whole because of the extensive interconnections among the two types of institutions. It is difficult to establish the existence of such interconnections from available sources and impossible to determine their significance. When they exist, such interconnections may mean there is effectively a single management or only infrequent consultation. Again, however, the Anuario provides some clues.

By indexing the chief officers of each financial institution whenever his name appears, the Anuario makes it possible to trace some of the interconnections. Among banks and financieras in 1970 in all of the ten largest deposit banks there were senior officers who also served in senior positions with financieras. In the fifty-nine banks included in the Anuario in 1970, considering all the Bancos de Comercio as a single system, there were twenty-three in which there was such joint membership. Thus, it is clear that membership by bank officers in the highest administrative positions or among the directors of the financieras is a much more common phenomenon in the very largest banks than in the smaller banks. This indicates strongly that the concentration of control of assets in the financial system is even greater than suggested by the tabulations for the bank and financieras separately.

Though the evidence is not conclusive, it does provide the basis for arguing that, if the benefits of competition are to be associated with the Mexican banks and financieras, they must be achieved in spite of, rather than because of the concentrated structure of the sectors. The next sections will begin to shed some more direct light on the performance of these sectors.

V. Patterns of sources and uses of funds in banks and financieras

Though they are far from ideal and complete sources of information, the balance sheet data can provide some insights as to the performance of the banks and financieras. Yet there are important qualifications even with respect to those few conclusions which are possible. Balance sheet data will not reveal the patterns of pricing and costs which by microeconomic performance should be judged. Only a few balance sheets at widely spaced intervals of time could be examined. Those balance sheets may be misleading since they are for the end of the year and may only reflect the "window dressing" proclivities of the various financial institutions rather than their true portfolio policies. The last observation cuts two ways, however, if the window-dressing is not done simply by some operation with random numbers or with the intent of altering completely the true picture of the institutions' portfolios. It is plausible that the window dressing is intended to modify the picture presented toward the mean institutional patterns, unless the individual institution can make some claim for virtue and/or profitability in being quite different. Whatever differences persist among institutions after the window dressing is completed will still reflect individual characteristics.

Tables 6 through 9 summarize some of the most important balance sheet ratios which could be computed for deposit banks from the data presented in the Anuarios for 1970, 1960, 1949 and 1940. The Tables present portfolio and profitability ratios for institutions of various size rank. The second and third row from the bottom of each table list averages for the entire sample of institutions. The numbers in the third row from the bottom are computed by consolidating all the institutions and the numbers in the second row from the bottom are averages of all the individual institutional observations. The standard deviations of the ratios are presented in the last row of each table.

The tables indicate that there are substantial differences in portfolio practices among the various institutions in each year surveyed. In 1970 the very largest banks tended to rely more on short-term deposits and less on long term deposits as sources of funds than other banks. Somewhat surprisingly they held relatively low proportions of interbank deposits. The variation in these ratios among the ten largest banks is quite striking, however. The stocks and bonds in the bank portfolios include both private and government notes and securities of all types with government debt predominating. In 1970 these securities tended to be a higher proportion of earning assets of the larger banks than in the smaller banks. Correspondingly there seems to be a somewhat lower proportion of loans and discounts in the portfolios of the larger banks in 1970 than is characteristic of the smaller banks. While there is substantial variability in the profits ratios no striking patterns emerge.

The patterns for 1970 seem to be generally true of 1960, and 1949 as well. The data for 1940 are too limited to permit generalizations. However, in 1960 and 1949 the two largest banks appear to be more idiosyncratic.

Table 7

Portfolio Structure and Profitability of Mexican Banks,
Without Aggregation of Conglomerates, 1960

(1) Size Rank Group	(2) Ratios to Liabilities			(3) Ratios to Assets			(8) Profits	(9) Profits Net Worth
	(2) Nonbank Sight Deposits	(3) Long Term Deposits	(4) Interbank Deposits	(5) Net Worth	(6) Stocks and Bonds	(7) Loans and Discounts		
1 and 2	.7075	.1882	.0473	.0804	.3357	.3363	.0103	.1378
3 and 4	.7824	.1475	.0244	.0971	.1215	.4454	.0079	.0875
5 and 6	.8532	.0841	.0180	.1080	.3492	.3578	.0149	.1521
7 to 10	.7677	.1788	.0185	.1038	.2505	.4823	.0129	.1439
11 to 20	.7409	.1621	.1214	.0875	.2204	.4329	.0135	.1656
All Other Banks	.7137	.1895	.0570	.1152	.2414	.5076	.0181	.1847
Weighted Average	.7251	.1869	.0525	.0900	.2658	.4335	.0123	.1488
Unweighted Average	.7250	.1811	.0615	.1091	.2413	.4864	.0166	.1750
Standard Deviation, All Banks	.0951	.0691	.1079	.0393	.4152	.0771	.0172	.1590

Table 8

Portfolio Structure and Profitability of Mexican Banks,
Without Aggregation of Conglomerates, 1949

(1)	(2)	(3)	(4)	(5)	Ratios to Assets			(8)	(9)
	Ratios to Liabilities								
Size Rank Group	Nonbank Sight Deposits	Long Term Deposits	Interbank Deposits	Net Worth	Stocks and Bonds	Loans and Discounts	Profits	Profits Net Worth	
1 and 2	.7110	.1293	.1106	.0666	.2356	.3081	.0095	.1517	
3 and 4	.7954	.0716	.0951	.0777	.1909	.3666	.0100	.1394	
5 and 6	.8729	.0398	.0390	.1054	.1641	.3839	.0136	.1369	
7 to 10	.7842	.1316	.0643	.0773	.1267	.4458	.0117	.1848	
11 to 20	.7180	.1720	.0736	.1162	.1205	.3948	.0148	.1613	
All other Banks	.7016	.1615	.1359	.2227	.0754	.4594	.0183	.1334	
Weighted Average	.6869	.1399	.0986	.0882	.1697	.3795	.0112	.1382	
Unweighted Average	.7186	.1545	.1157	.1817	.0989	.4367	.0166	.1422	
Standard Deviation	.3890	.0918	.2208	.1735	.0675	.0666	.0101	.0685	

Table 9

Portfolio Structure and Profitability of Mexican Banks,
Without Aggregation of Conglomerates, 1940

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Size Rank Group	Ratios to Liabilities				Ratios to Assets			Profits New Worth
	Nonbank Sight Deposits	Long Term Deposits	Interbank Deposits	Net Worth	Stocks and Bonds	Loans and Discounts	Profits	
1 and 2	.7601	.1115	.1321	.0614	.0782	.3219	.0110	.1947
3 and 4	.7290	.1627	.0556	.0692	.0339	.2609	.0157	.2649
5 and 6	.7020	.1748	.1185	.0653	.1282	.2724	.0115	.1904
7 to 10	.6898	.1161	.1745	.1463	.0404	.4114	.0222	.1876
11 to 20	*	*	*	.2198	*	.4340	.1330	*
All other Banks	*	*	*	*	*	*	*	*
Weighted Average	*	*	*	*	*	*	*	*
Unweighted Average	*	*	*	*	*	*	*	*
Standard Deviation	*	*	*	*	*	*	*	*

* Not computed because of major data deficiencies.

Comparing the bank balance sheet ratios across decades one of the striking developments has been a reduction in the dependence of the banking system on short term deposits and a growth in the share of long term deposits in total liabilities. This might be associated with the increasing competition of the financieras with their relatively favorable long term interest rates, though again it is not possible to be sure of the explanation. There was also a change in the use of funds, corresponding to the change in the sources. For banks of all size classes the proportion of funds invested in long term earning assets increased from 1940 to 1970, with the largest banks leading the way and the banks of rank eleven to twenty having somewhat divergent patterns. Since there was also an increase in the use of funds for short term loans and discounts by banks in the thirty year period surveyed, there was a reduction in relative in the holding of cash. Again, the levels of the ratios may be less significant than the changes in the ratios because of the window dressing phenomenon.

There seems to be some indication that the profitability of the small banks was better than the large banks. Though not shown, a separate tabulation indicated that the smaller Bancos de Comercio members of the system were more profitable than other banks of roughly the same size and also more profitable than the parent bank. Interestingly, the variation in profitability among the banks was substantially reduced over the thirty year period while at the same time there was a decline in the average return on assets.

Turning to an inspection of Tables 10, 11 and 12 for the financieras all of the previous qualifications mentioned for banks must be recalled. The tables indicate that there have been substantial differences among the financieras in their dependence on short term funds. But short term funds,

though not negligible, are relatively unimportant for financieras and in this respect the financieras are quite different from commercial banks as they were intended to be.⁸ An inspection of the balance sheet ratios also raises some doubts as to the conventional explanation for the growth of the financieras which emphasize the relatively high return and liquidity of the certificates which they issued. As shown in Table 10 in 1970 generally less than half of the non-equity funds of the financieras came from certificates and bonds. There was, however, considerable variability in this respect with the larger financieras relying more heavily on this source of funds. It is not clear why this should be so since the Banco de Mexico guarantee of the financiera certificates should have been as effective for smaller as for the larger institutions. However, permission for issuance of the certificates is required from financial authorities. This suggests that, to some extent, the relative growth of the individual institutions was under the control of these authorities.

Loans from banks have always played an important role as a source of funds for financieras. In 1970 they averaged more than twenty per cent of all nonequity funds. There have been important variations in the use of this source of funds by financieras, but no indication of a declining trend. Bank loans also appear to have generally been a somewhat more important source of funds for the larger as compared to the smaller financieras. This corresponds to the pattern of interconnecting relations among banks and financieras noted previously.

In the thirty years surveyed there appear to have been important changes, even cycles, in the sources of funds on which the financieras relied. Thus, rather than having achieved quickly the attributes of their "mature"

Table 10

Portfolio Structure and Profitability of Mexican Financieras, 1970

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Ratios to Liabilities						Ratios to Assets				
	Short Term Deposits	Long Term Deposits	Bonds and Certificates	Bank Loans	Net Worth	Private and Government Bonds	Stocks	Loans and Discounts	Profits	Profits Net Worth
Size Rank Group										
1 & 2	.0061	.2856	.4736	.2178	.0396	.4525	.0268	.4820	.0042	.1115
3 & 4	.0083	.4214	.3860	.1643	.0505	.3546	.1315	.4328	.0059	.1247
5 & 6	.0058	.2959	.3492	.2999	.0357	.4241	.0279	.4908	.0057	.1653
7 to 10	.0067	.3416	.3452	.2827	.0397	.4428	.0517	.4394	.0054	.1434
11 to 20	.0078	.3469	.3264	.2746	.0567	.4183	.0579	.4618	.0050	.1187
All other financieras	.0076	.5185	.1756	.2509	.0924	.3617	.0398	.5167	.0093	.1363
Weighted Average	.0068	.3480	.3825	.2336	.0455	.4177	.0533	.4716	.0054	.1242
Unweighted Average	.0075	.4702	.2243	.2539	.0805	.3779	.0448	.5010	.0082	.1341
Standard Deviation	.0059	.1405	.1350	.0690	.0811	.1262	.0515	.0827	.0054	.0692

Table 11

Portfolio Structure and Profitability of Mexican Financieras, 1960

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Ratios to Liabilities						Ratios to Assets				
Size Rank Group	Short Term Deposits	Long Term Deposits	Bonds	Bank Loans	Net Worth	Stocks and Bonds	Loans and Discounts	Open Credit	Profits	Profits Net Worth
1 & 2	.0111	.6450	.1413	.0767	.0727	.2416	.1131	.3870	.0070	.1057
3 & 4	.0143	.4901	.1278	.3323	.0556	.1891	.3696	.2654	.0066	.1295
5 & 6	.0098	.3736	.0364	.2033	.1206	.2145	.2300	.1258	.0130	.1404
7 to 11	.0144	.6420	.0120	.2526	.0559	.2056	.4541	.2219	.0092	.1737
11 to 20	.0189	.6096	.0644	.1154	.1332	.2115	.3253	.0982	.0175	.1600
All other Financieras	.0443	.6820	.0012	.1302	.5409	.1328	.4742	.1804	.0283	.1226
Weighted Average	.0155	.5823	.0912	.1826	.0994	.2075	.2838	.2617	.0110	.1220
Unweighted Average	.0345	.6482	.0229	.1435	.2655	.1594	.4235	.1773	.0232	.1327
Standard Deviation	.1110	.2694	.0744	.1943	.0950	.0737	.2355	.1981	.0176	.0833

Table 12

Portfolio Structure and Profitability of Mexican Financieras, 1949

(1)	Ratios to Liabilities					Ratios to Assets					(11)
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
Rank ID	Short Term Deposits	Long Term Deposits	Bonds	Bank Loans	Net Worth	Stocks and Bonds	Loans and Discounts	Open Credit	Profits	Profits Net Worth	
1 & 2	.1978	.0356	.6777	.0628	.1682	.2964	.3215	.1649	.0259	.1815	
3 & 4	.0851	.3008	.4150	.1104	.2369	.2127	.3051	.0630	.0244	.1219	
5 & 6	.0910	.1393	.3735	.3379	.4574	.1177	.3875	.0697	.0372	.1185	
7 to 10	.2738	.1345	.2481	.1269	.6124	.2664	.1753	.2801	.0307	.0866	
11 to 20	.1402	.0640	.3216	.2530	1.2989	.1849	.4731	.0841	.0475	.1054	
21 to 28	.0899	.0272	.3602	.4241	.8716	.2169	.2933	.0968	.0407	.0888	
Weighted Average	.1541	.1284	.4797	.1592	.3496	.2350	.3232	.1367	.0297	.1147	
Unweighted Average	.1367	.0820	.3620	.2713	.8844	.2108	.3502	.1190	.0395	.1062	
Standard Deviation	.1538	.1260	.3215	.2831	.3570	.1895	.1650	.1418	.0289	.0620	

condition in 1970, the tables suggest that these attributes have emerged slowly. Thus, a single explanation for the rapid growth of the financieras seems inappropriate.

Turning to the uses of the funds by the financieras, Tables 10 through 12 again indicate substantial changes over time. In each of the covered years the larger financieras tended to have a higher proportion of their earning assets in various types of private and government securities than was characteristic of smaller financieras. Unfortunately the holdings of government securities and private securities by individual financieras cannot be distinguished in the available data. However Table 13 indicates the distribution for all financieras of their holdings of securities in 1970. As shown in Table 13 the holdings of equity instruments were relatively small. In fact the total holdings of private, nonfinancial securities, both debt and equity instruments, was less than twenty per cent of all financiera security holdings. As indicated in Table 6, the securities held by financieras were only 27.52 per cent of their total assets in 1970.

The large proportion of financiera assets in various short term loans and discounts in 1970 is striking considering the intended role of financieras as development banks. It is characteristic of financieras of all sizes, though the proportions tend to be higher for the larger financieras. The significance of this type of short term credit in previous years can best be appreciated by adding loans and discounts together with the open lines of credit. Over time there appears to have been an upward trend in the use of funds by financieras for short term purposes though with substantial variability from 1949 to 1960 and from 1960 to 1970.

Table 13

Financiera Holding of Securities by Type, 1970*

	Total (millions of pesos)	Distribution (Per Cent)*
Total Investment in Securities	24,019.2	100.0
Fixed Rate of Return Securities	19,000.9	79.1
Government debt	16,401.9	68.3
Securities of financial firms	2,334.7	9.7
Nafinsa bonds	1,184.8	4.9
Nafinsa certificates	132.1	0.5
Financiers bonds	218.1	0.9
Mortgage bank certificates	799.7	3.3
Nonfinancial firms	264.3	1.0
Mortgage bonds	61.1	0.3
Other mortgage notes	203.2	0.8
Stocks	4,936.0	20.6
Financial firms	739.4	3.1
Other firms	4,196.6	17.5
Other Securities	82.3	0.3
Government securities	16,401.9	68.3
Banks and other financial firms	3,074.1	12.8
Nonfinancial firms	4,543.2	18.8

* Anuario Financiero de Mexico, 1970, Asociacion de Banqueros de Mexico, 1970, p. 1786-1787, taken from Memoria del Banco de Mexico, 1970

These comparisons of the sources and uses of funds by banks and financieras must result in skepticism with respect to the conventional interpretation of the reasons for growth of the financieras and the role which this type of institution has played in recent Mexican development. Financiera bonds and certificates have never supplied as much as half of the funds of the financieras, taking them as a whole. They have been that important for some financieras, however, and have generally been more important for the larger than for the smaller institutions. This suggests the possibility - though it does not by any means prove - that the larger institutions have been favored by the financial authorities since these authorities exercise more direct control over this type of financing. Taking long term deposits and financiera notes and bonds together, however, the financieras have relied much more on long term sources of funds than have the commercial banks. This observation makes it all the more surprising that in the financieras' portfolios, on the average, there was a larger proportion in loans and discounts than in bank portfolios in each year surveyed.

A more detailed comparison of the term structure of the short term loans and discounts of banks and financieras, presented in Table 14, tempers the observation only a little. This comparison in Table 14 indicates that a larger share of loans and discounts of the financieras were in the longer term instruments than was true of commercial banks. However, this may be a comparison which is especially subject to misleading reporting. It is a matter of common gossip that short term loans are often extended as a matter of custom. If this is the case the nominal term on the loan loses significance except, perhaps, as indicating the period at which the lending rate is renegotiated. Interestingly, the proportion of financiera short term lending in loans with terms greater than one year has been declining over time.

Table 14

Term Distribution of Loans and Discounts (per cent) *

	1970		1960		1949	
	Banks	Financi- eras	Banks	Financi- eras	Banks	Financi- eras
Up to 30 days	0.7	-	1.3	0.1	2.2	0.1
30 to 90 days	17.9	7.0	17.6	16.9	29.1	6.5
90 to 180 days	64.0	19.2	57.1	21.1	57.0	16.5
180 to 360 days	7.0	41.3	12.0	20.3	4.9	15.9
More than 360 days	10.4	32.5	12.1	41.7	6.8	61.0

* Totals may not add to one hundred per cent because of rounding errors.

These ratios are based on tables taken from the Memoria del Banco de Mexico as reprinted in the Anuario Financiero de Mexico for 1970, 1960 and 1949, Asociacion de Banqueros de Mexico.

It is difficult to argue from the data presented that the financieras have primarily been acting as investment banks for nonfinancial firms in Mexico. They have supplied more long term credit, as a proportion of their portfolios, than have commercial banks, but they have also been slightly more intensive in their supply of short term credit. Perhaps because of their lesser dependence on short term deposits as sources of funds as compared to banks, the financieras have maintained a much smaller ratio of cash to earning assets.

Altogether then the characterization of financieras as investment banks, although not certainly disproved by the foregoing comparative analysis of bank and financiera balance sheets, is certainly called into question. The data are just as consistent with the alternative hypothesis suggested above: that the growth of the financieras is a phenomenon of competitive entry by means of a new financial institution into the field of financial intermediation previously virtually completely reserved for commercial banks. The differences in the portfolios of the financieras and commercial banks may be quite consistent with the differences in the nature of their sources of funds. It is not possible to go further and to be more conclusive in this speculation on the basis of the available data. However, in the next section other aspects of bank and financiera operation will be assessed using the information profitability which exists in their balance sheets.

VI. Estimates of rates of return and costs for banks and financieras

Though lack of data prevents a direct appraisal and comparison of rates of return and costs of Mexican banks and financieras, an indirect approach is feasible. This makes use of the end-of-year profits and the asset and liability items recorded in the balance sheets in the Anuarios. The basic

model for the estimation of returns and costs will be presented first and then the important qualifications to it will be discussed.

The profits of each institution are the difference between revenues and costs. Revenues are the sum of the products of the net rates of return on each asset multiplied by the amount held of the particular asset. Likewise, costs are the sum of products of the net cost rates on each type of liability times the amount of each liability. Suppose the rates of return and cost rates are the same for each type of institution, or sub-class, except for an error term. Then total profits for any institution can be described by

$$(1) \quad \text{Profits} = \sum_i r_i A_i + \sum_j p_j L_j + u.$$

where r_i and p_j are the net revenue and cost rates; A_i and L_j are the assets and liabilities to which these rates apply and u is an error term reflecting random elements in both the revenue and cost rates. Since the balance sheets in the Anuarios provide data on the profits as well as the portfolios of assets and liabilities of the financial institutions, the net rates of return and costs in equation (1) can be estimated econometrically. The results provide some of the desired insights on the performance of the institutions though the estimation procedure is subject to a number of important qualifications.

The rates estimated on assets and liabilities are "net" rates. The costs of making and supervising loans, for example, cannot be distinguished from the returns from the loans in the estimation procedure and both are represented in the net rates which are estimated. Therefore, the estimates do not necessarily correspond to any nominal rate received or paid on any particular type of asset or liability. A further implication is that it

will not be possible to determine whether any differences observed in the estimated net rates are due to differences in gross revenues or costs.

The asset and liability items which appear in the balance sheets are aggregates of a variety of items with a composition which undoubtedly varies among institutions. It cannot be known from the balance sheet data themselves whether the variation in composition is random or associated systematically with size or some other characteristic of the financial institutions.

A further qualification to the estimation method is that the assets and liabilities on which the revenues were earned and costs paid are not those presented in the end-of-year balance sheets. If the financial institutions engage in end-of-year window-dressing, there is systematic distortion of the portfolios which were the basis of the profits reported. The reported profits may themselves be the subject of distorted representation since, by various accounting techniques those can be shifted forward or backward in time. The profits of the financial institutions may even be systematically misrepresented, for example by shifting them to other associated, financial or nonfinancial firms. Even when there has been no attempt at misrepresentation, it can be expected that there would be differences between the reported end-of-year assets and liabilities and those on which the profits reported were earned. As shown in Table 1 the rates of growth of the assets of the financial institutions, and, thus, of their liabilities also, has been quite high. The decade rates of growth of financieras as reflected in Table 1 correspond, for example, to an average annual exponential growth rate for the period 1960 to 1970 of over twenty-five per cent. Therefore, the end of year assets of the financieras may be twenty-five per cent higher than the beginning of year assets. Some of the reported profits were

earned at the very beginning of the year, some at the very end and most in between. When the end of year assets and liabilities overstate those actually associated with the profits, as is generally the case the estimated net rates will be understated.

There are many potential sources of variation among individual institutions in their net rates true of return and costs and it will not be possible to isolate most of these. There are differences in portfolio policies. There are also differences in the number of transactions associated with any given level of assets and liabilities depending on the average size of the transactions involved and their frequency.

One source of variation in which there is naturally a good deal of interest is that which is associated with the size of the individual institutions. However, the only measures of size which are available are those in the balance sheets themselves. Total assets, for example, would be a natural measure. Total assets are the sum of the individual assets which already appear in the regression equation. By including the total asset variable in the regression equation it might have been possible to extract those effects associated only with size. However, it would be difficult to interpret the significance of any variation with size independently of variation with particular assets. The alternative which was chosen was to divide the sample of financial institutions of each type, in each year, into various size classes and to estimate the net rates for each size class separately.

Tables 15 through 22 present the results of applying a standard least squares regression procedure for the estimation of the coefficients of return and costs to the data for commercial banks and financieras.⁹ The regressions

were estimated with and without a constant term and both sets of regressions are presented for the commercial banks. In general the constant terms in the regressions for the financieras were not statistically significant so those regressions are not presented.

As can be seen from scanning Tables 15 through 19 for the banks, the results of the regression were in general consistent with expectations in that the signs of the estimated coefficients on the asset items are nearly always positive and that those related to the liabilities are negative. Where the signs are "wrong" they are clearly not significant. The results are usually "good" in that the statistics are nearly always large enough to make the estimated coefficients significant and to be reassuring about the regressions.⁹

In all cases the constant term estimated for banks is positive. However, while the constant term is significant for all banks taken together it is sometimes not significant for particular size subgroups of banks. The implications of the significant positive constant term are not clear. Strictly speaking it means that, with no assets or liabilities at all, the banks would still make profits. In this interpretation it may be regarded as a positive test for the existence of monopoly power among the commercial banks, a rental associated with the possession of a bank charter in Mexico. If used as a measure of the "degree" of monopoly power, the term would have to be normalized, perhaps by dividing by the average profits of the banks in each size class. However, the constant term may also indicate a nonlinearity or nonhomogeneity in any one or all of the relations between profits and assets and liabilities. As shown in Figure 1, the constant term would be consistent with diminishing returns to assets or an increasing cost rate associated with

Table 15

Estimated Rates of Return on Assets and Liabilities of Mexican Banks, Without Aggregation of Conglomerates, 1970

Portfolio Items	(2) All banks	(3)	(4) Banks, 1-20	(5)	(6) Banks, 21-40	(7)	(8) Banks, 41-87	(9)	(10) Banks, 21-87	(11)
Assets										
Government debt	0.15	0.18	0.19	0.21	0.11	0.11	0.05	0.05	0.06	0.07
Other bonds	0.14	0.17	0.20	0.22	0.08	0.09	0.09	0.08	0.05	0.06
Stocks	0.15	0.17	0.19	0.21	-0.05	-0.03	0.03	-0.04	0.04	0.05
Discounts	0.16	0.19	0.24	0.27	0.10	0.09	0.08	0.08	0.07	0.08
Loans	0.10	0.14	0.16	0.18	0.08	0.08	0.07	0.07	0.05	0.06
Other assets	0.09	0.12	0.11	0.13	0.05	0.05	0.05	0.04	0.02	0.04
Liabilities										
Demand deposits	-0.12	-0.16	-0.17	-0.19	-0.08	-0.07	-0.07	-0.06	-0.04	-0.05
Term deposits	-0.13	-0.16	-0.22	-0.24	-0.07	-0.07	-0.06	-0.05	-0.04	-0.05
Savings deposits	-0.11	-0.15	-0.17	-0.19	-0.09	-0.08	-0.06	-0.06	-0.04	-0.05
Other deposits	-0.11	-0.14	-0.11	-0.13	-0.08	-0.07	-0.03	-0.03	-0.04	-0.05
Loans from banks	-0.11	-0.14	-0.21	-0.22	-0.07	-0.06	-0.08	-0.07	-0.04	-0.05
Other liabilities	-0.14	-0.18	-0.27	-0.30	-0.07	-0.05	-0.03	-0.03	-0.04	-0.06
Constant	676.08		796.4		1213.4		68.9		236.4	

Table 17

Estimated Rates of Return on Assets and Liabilities of Mexican Banks,
Without Aggregation of Conglomerates, 1960

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Portfolio items	All Banks		Banks, 1-20		Banks, 20-73		Banks, 21-40		Banks, 41-73	
Assets										
Stocks and bonds	0.16	0.16	0.16	0.12	0.11	0.12	0.13	0.13	0.08	0.11
Loans	0.16	0.17	0.16	0.17	0.09	0.09	0.09	0.09	0.06	0.10
Other credit	0.14	0.14	0.14	0.15	0.10	0.10	0.11	0.11	0.03	0.08
Other assets	0.13	0.14	0.13	0.14	0.08	0.09	0.10	0.10	0.02	0.06
Liabilities										
Deposits	-0.15	-0.16	-0.15	-0.16	-0.10	-0.10	-0.12	-0.12	-0.05	-0.09
Other deposits	-0.14	-0.15	-0.15	-0.16	-0.07	-0.07	-0.08	-0.08	-0.03	-0.07
Other liabilities	-0.15	-0.16	-0.15	-0.16	-0.08	-0.09	-0.07	-0.07	-0.03	-0.07
Contingent liabilities	-0	-0	-0	-0	0.01	-0.01	0.01	0.01	0	0
Constant	134.27		315.9		54.65		221.71		247.7	

Table 18

Estimated Rates of Return on Assets and Liabilities of Mexican Banks
Without Aggregation of Conglomerates, 1949

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Portfolio items	All banks		Banks, 1-20		Banks, 21-56		Banks, 21-40		Banks, 41-56	
Assets										
ocks and Bonds	0.03	0.04	0.03	0.07	0.10	0.10	0.06	0.08	0.15	0.17
ans	0.04	0.05	0.05	0.09	0.001	0.01	-0.02	-0.01	0.12	0.06
en credit	0.13	0.15	0.15	0.18	0.10	0.12	0.20	0.13	0.15	0.11
er assets	0.05	0.07	0.05	0.09	0.04	0.05	0.03	0.05	0.14	0.08
Liabilities										
and deposits	-0.03	-0.05	-0.04	-0.08	-0.02	-0.03	-0.13	-0.02	-0.10	-0.06
rm deposits	-0.03	-0.05	-0.07	-0.09	-0.003	-0.01	-0.01	-0.002	-0.09	-0.05
er liabilities	-0.04	-0.05	0.12	-0.06	-0.02	-0.03	-0.02	-0.02	-0.09	-0.04
ntingent abilities	0.004	-0.004	-0.008	-0.07	-0.005	-0.005	-0.005	-0.005	-0.02	-0.01
stant	37.74		169.17		53.29		234.51		-63.93	

Table 19

Estimated Rates of Return on Assets and Liabilities of Mexican Banks,
Without Aggregation of Conglomerates, 1940

(1)	(2)	(3)
Portfolio Items	All Banks	
Assets		
Bonds	0.99	0.51
Stocks	0.75	1.37
Loans	1.20	0.59
Open credit	0.37	0.30
Bank Loans	-3.40	-1.59
Other assets	1.11	0.48
Liabilities		
Demand deposits	-1.12	-0.49
Term deposits	-0.98	-0.57
Loans from banks	-0.87	-0.32
Other deposits	-1.47	-0.71
Other liabilities	-3.02	-1.54
Constant	-301.75	

liabilities. Unfortunately the available data do not permit a better explanation of this term. Generally, the estimated rates of return of assets and rates of payment on liabilities are both higher when the constant term is not present than when it appears.

The absolute magnitudes estimated for the coefficients should probably be ascribed less significance than their variation among size classes of institutions. In general, in 1970 and 1960 as shown in Tables 15 and 16, the larger are the banks in any size grouping, the larger are the estimates of both the rates of return and the cost rates. In 1970 the differences in the coefficients estimated for the largest banks, of rank one to twenty, and the banks in the next largest size group, of rank twenty-one to forty, are larger than the differences between any two other size groups. Usually the coefficients for the largest banks are twice or more than the coefficients for the next smaller banks. The differences in the estimated coefficients for the banks of various size rank in 1960 are not so large as in 1970. In 1949, it is not clear that there are such systematic differences among the coefficients estimated for the banks of various size groups. However, the results for 1949 are, in general, less plausible and less satisfactory.

Again it is impossible from the limited data available to explain the differences among the estimates. In addition to economies and diseconomies of scale, there may be systematic differences in the composition of the asset and liability accounts. One especially puzzling feature of the estimates for 1970 and 1960 is the relatively high net rates of return on government debt. These are much higher than the face amounts on the government bonds held by the banks. However, there are other types of government debt in-

cluded in the bank portfolios which may earn such high returns: the debt of various public enterprises, short as well as long term debt, and, perhaps, government notes issued to contractors which are rediscounted by the banking system. The question then arises as to why there should be systematic differences in the net rates on government debt among banks of different size.

As noted previously, the estimated coefficients are net rates and include both revenues and costs associated with any particular item. Thus, net revenue rates may be higher because the costs associated with acquiring and holding the asset are lower or net rates may be lower because costs are higher. Though rates on commercial bank deposits are set by the Banco de Mexico and carry uniform rates of interest their net cost rates may be different among banks depending on the noninterest costs of obtaining and servicing the deposits.

It is tempting to identify the size variations in the estimated rates with a model of monopolistic competition in which the large banks are willing to undertake additional costs of branch banking and extensive advertising as ways of creating some degree of monopoly powers for themselves of which they then take advantage. However, this can only be speculation without additional information.

Comparisons of estimated coefficients for deposit banks across years are even more tenuous because of changes in definition of the various asset and liability items and changes in accounting practices over time. There appears to be an upward trend in the estimated revenue and cost rates over time though this is clearest among the very largest and smallest banks and less notable among those of middle-size.

The results of applying the regression model to the financieras are shown in Tables 20, 21 and 22. These results tend, on the whole, to be some-

what less satisfactory with some of the more obvious problems in the estimates for 1970. As shown in column (2) of Table 20, when the regression was estimated for the financieras as a whole in 1970 the signs of the coefficients were all exactly opposite to expectations. Noting the difference in 1970 in the composition of the portfolios of the vary largest financieras from the others, the regression equation was estimated for financieras of rank one to twenty with again the perverse results shown in column two of Table 20. However, the signs of the coefficients estimated for all other financieras in 1970 conformed to expectations with one insignificant exception, as indicated in column (3) of the same Table. In order to locate more closely the source of the perverse results of columns (1) and (2) the regression was calculated for financieras of rank eleven to thirty. The results in this case again conformed to expectations in that the estimated coefficients all had the proper signs. This also was true of all the other size subgroups as shown in Table 20. Interestingly, in 1960 and 1949, similar problems also arise.¹⁰

In general the constant term was generally insignificant when estimated in the financieras regressions so the results when it was included are not reported. The lack of a significant constant term may reflect the absence of a characteristic monopolistic rental for a financieras charter, but, as noted in the discussion of this term in the regression estimates for the deposit banks, such interpretations are only speculative.

The results for the financieras also show the phenomenon of estimated higher net rates of return and costs the larger the firms in each size subclass. This tendency is quite strong in 1970, present but less strong in 1960 and apparently absent in 1949. Again also the net rates of return on government debt are much higher than the nominal rates on government bonds,

Table 20

Estimated Rates of Return on Assets and Liabilities of Mexican Financieras, 1970

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Portfolio Items	All Financieras	Financieras Rank 1-20	Financieras Rank 21-73	Financieras Rank 11-30	Financieras Rank 21-40	Financieras Rank 31-50	Financieras Rank 41-73	Financieras Rank 51-73
Assets								
Government debt	-.0053	-.0780	.0578	.1988	.1244	.0832	.0537	.0491
Other bonds	-.0124	-.0759	.0408	.1918	.1039	.0683	.0596	.0556
Stocks	-.0013	-.0579	.0426	.1977	.0720	.0676	.0292	.0481
Discounts	-.0050	-.0473	.0519	.2201	.0354	.0898	.0881	.0791
Loans	-.0042	-.0294	.0307	.2023	.0802	.0762	.0634	.0521
Other assets	-.0367	-.1221	.0153	.1659	.0529	.0619	-.0085	-.0134
Liabilities								
Sight deposits	.2535	.3692	.0623	-.2333	.1885	-.1580	.0935	.1702
Term deposits	.0182	.0732	-.0257	-.1996	-.0746	-.0721	-.0590	-.0545
Bonds	.0096	.0610	-.0423	-.2046	-.1010	-.0743	-.0356	-.0219
Certificates	.0230	.0998	-.0273	-.1786	-.0818	-.0502	-.0639	-.0560
Bank loans	.0036	.0372	-.0459	-.2059	-.1017	-.0761	-.0457	-.0380
Other liabilities	.0416	.0597	-.0240	-.2668	-.1442	-.0463	-.0372	.0029

Table 21

Estimated Rates of Return on Assets and Liabilities of Mexican
Financieras, 1960

(1)	(2)	(3)	(4)	(5)	(6)
Portfolio Items	All Financieras	Financieras Rank 11-58	Financieras Rank 1-20	Financieras Rank 21-40	Financieras Rank 21-58
Assets					
Securities	.1223	.0866	.1391	.1369	.1077
Loans	.0972	.0959	.1111	.0856	.0900
Mortgages	.1043	-.0239	.1249	-.0198	-.1115
Open credit	.0931	.0800	.1080	.0858	.0853
Other assets	.1191	.1506	.1416	.0406	.0465
Liabilities					
Sight deposits	-.0970	-.1009	-.1121	-.0178	.0372
Term deposits	-.0969	-.0953	-.1126	-.0828	-.0859
Certificates	-.1433	-.1168	-.1684	-.1879	-.1494
Other liabilities	-.1368	-.1432	-.1655	-.1010	-.0939

Table 22

Estimated Rates of Return on Assets and Liabilities of Mexican
Financieras, 1949

(1)	(2)	(3)	(4)	(5)
Portfolio Items	All Financieras	Financieras Rank 1-20	Financieras Rank 6-26	Financieras Rank 11-26
Assets				
Securities	.0465	.0482	.0565	.0906
Loans	.1205	.1212	.1270	.1254
Mortgages	.1109	.1138	-.0020	.2227
Open Credit	.1251	.1278	.0936	.1480
Other assets	.0793	.0804	.0875	.0643
Liabilities				
Sight deposits	-.1155	-.1186	-.1075	-.0789
Term deposits	-.0916	-.0920	-.0532	-.4404
Certificates	-.0596	-.0617	-.0633	-.1464
Other liabilities	-.0585	-.0613	-.0782	-.0273

though perhaps explanations similar to those made for the results for commercial banks would hold.

Comparisons among the financieras over time are subject to the same qualifications as for the commercial banks: there have been changes in definitions and in accounting practices. Yet, as with the commercial banks, there are also indications with the financieras that the net rates of return and costs have both fallen over time.

Comparisons of the rates of return and costs of the commercial banks, on the one hand, and the financieras, on the other hand, are subject to all the previous warnings. With these in mind, it can be noted that, for institutions of roughly the same size rank, the estimated coefficients are also of roughly the same order of magnitude. This is consistent with the hypothesis that banks and financieras are in fact rather similar types of institutions, have assets of similar types and make rather similar loans and investments.

VII. Conclusions

Studies which, of necessity, rely on indirect methods of inference and with limited data of the sort used here cannot come to definite proofs or disproofs of hypotheses. At best some consistencies and inconsistencies can be pointed out, some tentative insights provided and some suggestions made for further work.

It is not possible to prove that the commercial banks and financieras operate as oligopolies, but it is clear that the structure of the sector is not that called for by the model of perfect competition. There is a high degree of concentration in both sectors with only modest signs of a decrease in the share of the largest two institutions in each sector over time. If there is any competition it appears to be among the middle and smaller in-

stitutions with the latter in some cases gaining ground as the expense of the former.

Though the financieras are often discussed, and were intended to operate, as investment banks, they have actually had a slightly larger share of their investment portfolios in short term loans and discounts than the commercial banks have had. However, the financieras have also had a larger share of their portfolios in securities, mainly debt instruments, than deposit banks and a much larger share of their short term loans and discounts have been of term longer than six months than is true of commercial banks, though this may not represent a real difference in loan periods.

Unlike the impression customarily given, long term certificates have never been the major source of financiera funds and appear, in fact, to have declined in importance from 1960 to 1970. The certificates have, however, always been more important for the larger than for the smaller financieras.

Estimates of the rates of return and costs on the portfolio items of the banks and financieras indicate that, for 1960 and 1970, especially, those rates both were higher the larger the institution. The estimates also indicate that banks and financieras of roughly the same size class were more like each other with respect to these rates, than they were like other banks and financieras, respectively, of different size class. If these estimates are correct in identifying differences, even if not in estimating precise orders of magnitude, competition has certainly not succeeded in establishing uniformity of rates of return and cost within each category of institution. Competition may have lead to more uniformity among comparably sized commercial banks and financieras. On the other hand, it may be the mergers and conglomeration among the largest institutions which account for the result.

The analysis and comparisons carry no implication that the Mexican financial structure is more concentrated and less competitive than the financial systems of other countries in Latin America. No intercountry comparisons were made and none are implied. Yet, since the Mexican financial system is often regarded as a model for Latin America, or at least as a model of how a financial system can contribute to real economic development, it is important to understand its structure and how it has performed. The analysis has, perhaps, been more successful in raising questions than in answering them. There appear to be reasons for questioning the performance of the Mexican financial system. In particular there are grounds for skepticism that the financieras have operated vigorously as investment banks. Even so the financiera might have been an important innovation as a means of increasing the competitiveness of the Mexican financial system.

There are few final answers or evaluations which can be drawn from this study, only more questions which more and better data could help to answer. The study does make one point unequivocally, however, that to understand the role of financial systems in economic development it is necessary to appreciate their microeconomic structure and performance.

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Footnotes

1. For a good, short survey of the characteristics of Mexico's growth see Hansen (10). A longer, more extensive study is Reynolds (15).
2. See, for example, Navarrete (14) and Anderson (1).
3. E.g., Bennett (3), Brothers and Solis (4), Goldsmith (7), Griffiths (8), La Cascia (11).
4. As recent examples, see Shaw (17) and McKinnon (12).
5. See, for example, Federal Reserve Bank of Boston (5) and Guttentag and Herman (9).
6. See Gerschenkron (6) for a study of the relation of the development banks of continental Europe to its development.
7. E.g., Brothers and Solis (4), pp. 30-35.
8. Short term financiera deposits are less convenient than short term deposits in commercial banks since they cannot be drawn on by checks. An interesting speculation is that in part they represent the compensating balances which are customarily though not uniformly required to be held against loans. Of course, given the interlocking structure of the financieras and banks, some part of such compensating balances might also be held in commercial banks. Even on the assumption that the short term deposits are all compensating balances, it is not possible to determine what they add to the nominal interest costs of the outstanding loans and investments of the financieras since the terms of those assets are not known.
9. Details of the regression results for both banks and financieras are available in a separate Appendix.
10. It should be recalled that the largest financieras are also associated with the largest deposit banks. The estimated coefficients for each type of institution may reflect some shifting of earnings within each conglomerate, though it is impossible to determine if this is the case and, if so, why.

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